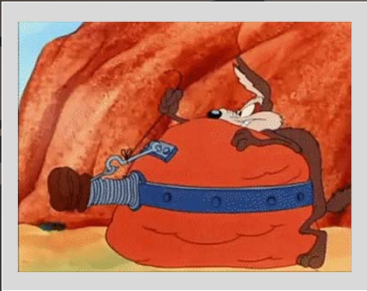


PHYS 210 - General Physics I

- Base Groups
- Conservation of linear momentum
- Energy!



Base Groups

- BGDG: If you could be an animal for a day, what animal would it be?
- BGWS
- RQ 09



Conservation of Linear Momentum

For a system of particles, if there are no external forces,

$$\vec{P} = \text{constant}$$

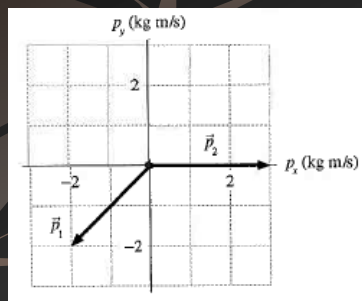
or

$$\vec{P}_i = \vec{P}_f$$

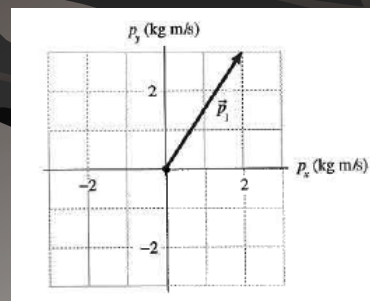
In 2D!

Workbook p. 9.8

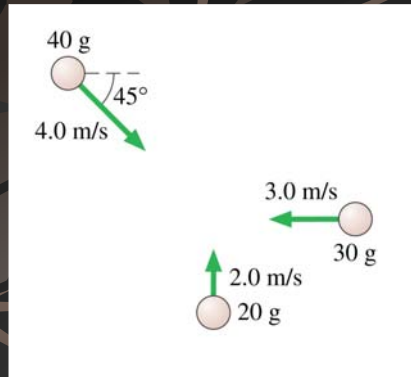
9.6 #19



9.6 #21



In 2D!



- Three balls of clay collide with initial conditions as in figure and stick together. Velocity of resulting blob of clay?

IMPULSE

The change in momentum from a collision is equal to the impulse:

$$\Delta \vec{p} = \vec{J} = \int_{t_i}^{t_f} \vec{F}(t) dt = \vec{F}_{ave} \Delta t$$

